MASSACHUSETTS FOREST LANDOWNERS ASSOCIATION

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Philip Guidice
Commissioner
Massachusetts Department of Energy Resources
100 Cambridge Street, 10th floor
Boston, MA 02114

RE: Comments on DOER Biomass RPS Rulemaking Process

Dear Commissioner Guidice,

The Massachusetts Forest Landowners Association is a non-profit organization whose mission is the conservation and stewardship of Massachusetts trees and woodlands, the interests of private forest landowners, and the viability of a sustainable forest economy.

One of the principal constraints to better management of woodlands in Massachusetts is the lack of sufficient markets for low value, low grade wood. Without such markets, landowners either face spending considerable amounts of money to kill/remove low grade trees to free up the better quality trees from competition, or simply cannot do the improvement work needed to improve the quality and quantity of timber grown on their land. For that reason, increased use of low-value timber for biomass is important both to improve growth rates and profitable uses of Massachusetts forests, and for the long-term conservation of private woodlands.

Our experience is that most landowners will not do a harvest solely to cut biomass, but rather will generate biomass as part of a harvest of sawtimber, or while doing other work on their woodlands, whether creating more diverse habitat, doing maintenance cutting or cleanup of storm damage, or thinning stands to give better stems more wood to grow. It is our expectation that most of the biomass that is created during such operations will be the tops and residuals left over after better paying sawlogs or cordwood are removed first. While the process of turning such tops and residuals into chips is called "whole tree chipping", that really refers to the fact that the bark and limbwood is part of the material that is chipped, rather than that the chipping operation will chip up the entire trees.

MFLA supports the use of biomass energy in the Commonwealth. Biomass energy is a way to use a renewable, sustainable and locally-produced fuel source that will add jobs to our communities, save our schools and towns money, and reduce our overall greenhouse gas emissions. **The Manomet Report clearly shows that all biomass uses eventually provide greenhouse gas savings, something that fossil fuels never do.** Vermont has done an excellent job of promoting the use of biomass energy to build the local economy, reduce both greenhouse emissions and the use of non-renewable fossil fuels, and keep the state green. **Massachusetts would do well to do the same.**

We have read Secretary Bowles' letter of July 7th directing DOER to change the way that the Commonwealth provides incentives for biomass energy by having draft new regulations for the Renewable Portfolio Standards ready by September 1st. We also attended the meeting DOER held in Holyoke on July 28th about the Manomet report and the RPS standards process.

We would like to make the following comments and suggestions:

1. As you noted at the Holyoke meeting, the Manomet Report, while very thorough, neglected to study the biomass consequences of using "wastewood" as a substantial portion of the fuel for biomass energy facilities, even though on page 110 of the report, it noted that "*all bioenergy technologies --- even biomass electric power compared to natural gas electric --- look favorable when biomass "wastewood" is compared to fossil fuel alternatives."* It is our opinion that t**he lack of information about the use and carbon consequences of wastewood is an important information gap which should be corrected <u>before</u> any final regulations are devised governing the RPS standards.**

2. We think that some definitions need to be clarified. We would recommend the following definitions for clarity:

Forest Roundwood: Wood from the trunks of trees that are harvested in log form and may be used for sawlogs, cordwood, pulpwood, or chipped for biomass.

Forest Residues: Tops, limbs or otherwise normally unmerchantable tree materials generated by a timber harvest that is available to be utilized for biomass. Such materials could include standing dead trees, storm damaged trees, insect damaged trees, and unmerchantable cull timber provided it is harvested from a woodland under Chapter 132.

Wastewood: Wood residues and materials that result from milling operations, utility and municipal tree trimming, landclearing and landscaping, as well as cleanup of storm damage, insect infestations, etc..

3. Wastewood, as documented by the Manomet Report, is generated in large amounts every year and makes up a substantial portion of the available fuel for biomass energy facilities in Massachusetts. Unlike forest roundwood, wastewood, having already been cut regardless of its possible use for biomass, is a substantial existing source of greenhouse carbon emissions. Any use of wastewood as a biomass fuel will not only displace carbon emissions from fossil fuels but also utilize waste products that were already substantially adding to the state's overall greenhouse gas emissions.

We recommend that any changes to the RPS standards should reward facilities that commit to using a substantial proportion of wastewood as fuel.

4. While we do not think that any large facility would likely be fueled solely from wastewood, we think that wastewood might provide a substantial proportion of the fuel source for a large biomass using facility, ranging from 50 to 80 percent of its annual fuel. This emphasizes the need to better understand the likely carbon payback of such facilities using different proportions of wastewood and forest roundwood for fuel sources. How would the carbon payback of a

facility that burned 50 percent wastewood as fuel differ from one that burns solely roundwood, or one that burns 75 percent wastewood?
Only a follow-up study could answer those questions sufficiently to create a basis for decision-making about the RPS standard. We see no reason for such an important question to be ignored solely to meet an arbitrary September deadline. It would be better for the state, the environment, and biomass developers to have the most information available when changes to the RPS standard are being considered.

We think that the draft RPS regulations should be delayed until this important information gap is resolved.

5. As illustrated below in points 7 - 9, one critical feature in developing effective, greenhouse gas reducing applications of biomass energy is the creation of sufficient markets to encourage loggers and others to invest in machinery to efficiently harvest and process the materials. Small thermal applications, such as conversion of schools or other institutions to biomass heat, which may be very useful in reducing greenhouse gases, cannot provide an adequate market by themselves for such infrastructure investment because they don't use enough biomass materials to sustain a market. Only if a large user, ie a power plant or major industrial facility, exists will a sufficient market be created to encourage such investment by the small businesses who supply biomass. The smaller thermal/CHP applications, however, will benefit from the market efficiencies created by the larger user.

6. In parts 3 and 4 of his letter, Secretary Bowles proposes creating regulations regarding the sustainability and suitability of different types of biomass as fuels for energy facilities. Not all fuels for such facilities will be able to meet the same standards for sustainability. How sustainable are wood materials derived from land clearing if the land is subsequently used for a developed use, rather than to grow more trees or biomass materials? It is certainly environmentally better to utilize such materials and reap some value from their existing greenhouse carbon emissions, but it would be an incredible stretch to describe them as sustainable. In a similar fashion, chips derived from the removal of trees to combat infestations of invasive destructive insects like the Asian long-horned beetles (ALB) now affecting Worcester, Holden, West Boylston, Shrewsbury and Boston may also not truly be sustainable unless such trees can be quickly replaced in equal or greater numbers.

7. Infestations of Emerald ash borers, (EAB) now less than 25 miles from Massachusetts in the Hudson River valley, will begin to kill ash trees in large volumes in Massachusetts forests in the next decade. Because of the federal quarantines that are imposed on the movement of wood and timber when such invasive species are discovered, the resultant biomass will probably not be allowed to be shipped outside of the quarantine zone. Millions of dead and dying ashes will produce considerable extra carbon emissions unless sufficient biomass markets for the dead trees are in place.
Unless Massachusetts has sufficient biomass utilization to minimize the effects of a wholesale ash dieoff, the extra carbon released by large numbers of decomposing trees could overwhelm our efforts to reduce carbon elsewhere.

8. In a similar vein, periodic and annual storm damage generates incredible amounts of wastewood – for example, FEMA estimated that the December 2008 ice storm in western and northern

Massachusetts created more than 750,000 cubic yards of debris in highway right of ways alone that had to be dealt with. Damage to woodlands from the storm undoubtedly created three or four times such debris – all of which is now decomposing and releasing carbon. A windstorm that struck Greenfield in May produced thousands of tons of storm debris the town now plans to ship to a biomass plant in northern Vermont because no local markets for biomass exist. We recommend that when awarding RPS credits, DOER needs to factor in an alternatives analysis that not only considers alternative fuel usage, but also the amount of greenhouse emissions created when no local markets exists and wastewood biomass generated must be shipped to out of state facilities.

9. On a long-term planning basis, we should keep in mind the catastrophic effects of hurricanes in generating debris. The 1938 hurricane felled an estimated 91 million trees in one county of Massachusetts alone, or an average of 180 per acre, according to U.S. Weather Service statistics. Because woodlands cover more of Massachusetts now than they did in 1938, and because our woodlands are more mature with larger, taller trees which are more susceptible to blowdown and wind shear, damage from a Category 3 hurricane like the 1938 hurricane will be greater than it was in 1938.
   In the aftermath of that hurricane, the federal government created a Hurricane salvage administration to have workers salvage the downed timber (more than 1 billion board feet in Massachusetts alone – 20 times our current annual harvest) and pile and burn the tops and limbs to reduce the fire danger the slash posed.
   Again, unless sufficient biomass utilization capacity exists here the next time a Category 3 hurricane strikes, the Commonwealth will face very high carbon emissions from the huge amounts of storm debris the storm creates, as well as from open burning by landowners trying to reduce fire danger for their properties.

10. Under Massachusetts law (MGL Chapter 132), the authority to issue regulations governing forest cutting practices is vested in DCR, not DOER. Any such regulations are required to be considered by the State Forestry Committee, as designated and constituted by Chapter 132, and themselves be the subject of hearings before they can be put into effect.

11. **As the largest organization representing forest landowners, we do not see any pressing need to change the Chapter 132 regulations in regard to the harvest of forest biomass**.
    Massachusetts already has effective regulations under Chapter 132 regulating timber harvests and protecting soils, wildlife, rare species and water resources. Every year biomass in some form is harvested under the current standards without any demonstrable ill effects on the forest, the environment, or on wildlife or water resources. While most low value wood here has been cut for fuelwood or pulpwood, not for energy chips, the experience of New Hampshire with harvests for biomass on the same type of forest stands over the past 30 years has shown no ill effects of the most common forms of whole tree harvesting.

12. We are concerned that the proposed requirement in Secretary Bowles letter that "Forest wood used as fuel should be harvested … *in compliance with a forest management plan prepared by a licensed forester"* imposes unreasonable costs upon landowners to deal with low value residues. A forest management plan, which looks at possible management considerations over a ten year or longer timespan, is sometimes confused with a Forest Cutting Plan which sets forth a proposed harvest and its compliance with BMPs, rare species, water protection and other requirements of Chapter 132. There is no requirement in either state law or current regulations that a landowner have a forest management plan for their land – indeed DCR itself doesn't have management plans for much of its acreage. To restrict biomass harvests to only those with a management plan would

create a cost prohibitive requirement for some landowners with small acreages and limited means, particularly if they are dealing with salvaging storm or insect damage.
Forest Cutting Plans are now only required for timber harvests above a certain minimum threshold and to impose new requirements for use of a licensed forester for smaller harvests may make them cost prohibitive for landowners when the amount they receive for biomass stumpage is so little. While we recommend that landowners consult with professional foresters in managing their land, we think **landowners should retain the right to file Forest Cutting Plans for harvests on their land themselves, provided such plans comply with the requirements of Chapter 132 and with any biomass harvesting guidelines that are adopted.**

13. Rather than impose new requirements for practices that have been performed in Massachusetts generally without issue over the past 30 years**,** we think that the State Forestry Committee should **develop guidelines for biomass harvesting rather than new regulations,** to provide flexibility in updating them should experience show a need to change them.
This is the approach that was used to develop Forestry Best Management Practices to protect water quality. The BMPs have been updated every 10 years or so when experience showed changes were needed without requiring the elaborate process required for changing state regulations and have worked very effectively.
Such biomass guidelines could be issued preliminarily and reviewed after 1 year or so to determine how well they are working, and what changes would be appropriate. As the Forest Guild report (itself a guideline) notes, the effects of different biomass harvesting practices have not been studied much yet. Guidelines would be more flexible, easier to implement, and easier to change should new research or more experience show a need for revised practices.

14. We think that part 4 of Secretary Bowles letter proposing absolute limits on the amount of residues that can be removed from a woodland demonstrates a lack of understanding of forest complexity and forestry issues. Different sites and different stands may require different treatments. In some cases less removal of biomass will be desirable, in others more may be needed.
In the case of a harvest removing EAB-killed ash, it may be desirable or even mandatory to try to remove all the tops and residues to try to limit the spread of EABs to other stands. In a similar fashion, foresters dealing with a massive blowdown of white pines from a hurricane-like storm may well want to remove more than 50 percent of the flammable residues to reduce the potential for wildfires, particularly in woodlands that border vulnerable housing areas.
Any guidelines establishing suggested limits on the amount of residues that might be removed from a woodland for use as biomass fuel should allow the Service Forester that is charged with permitting and enforcing them sufficient flexibility to waive the residue limits depending upon conditions on the individual woodland, rather than imposing a one size fits all regulation that is impractical in the field. If the recommended amount to be removed exceeds the normal limit, that should be required to be justified in writing on the application.

15. We also think that the limit proposed in Secretary Bowles letter that would limit to "*15 percent by weight of total sawtimber removed per acre as eligible to be treated as forest residues for biomass fuel"* is ill-considered and may have very negative effects that are contrary to the purpose of Chapter 132. Many woodlands today suffer from having 50 percent or more of their timber volume tied up in unmerchantable, low value trees. The longstanding dilemma for foresters and landowners trying to improve the health and productivity of these degraded woodlands has been to find a way to get enough of these low grade trees removed to free up the limited number of better trees to grow.

This proposed 15 percent limit on use of sawtimber for biomass fuel would either severely limit the use of good forestry practices to improve degraded woodlands, or would encourage more cutting of the limited valuable timber instead, which would be highgrading and add to the continued degradation of these forest stands. Both of these outcomes are bad practices.
This example clearly shows the problems with state officials with little background in forestry issues trying to impose standards from above. We think that **to avoid creating non-scientific regulations that are not practical on the ground** and have unforeseen ill effects, **any biomass harvesting guidelines should be developed by the State Forestry Committee under Chapter 132 and with adequate representation from the different sectors of the forestry and landowner community** to assure a broader understanding of the differing and often conflicting issues involved.

16. As an organization representing forest landowners and Tree Farmers, we feel that **any guidelines concerning harvesting for biomass must be flexible enough to be adapt to the different forest types and stand issues found in Massachusetts, must reflect good science, and be sufficiently practical to be implemented on the ground.**

Any guidelines should be simple to understand, should work with the existing Cutting Plan requirements, and should consider how DCR Service Foresters and applicants will be able to reasonably judge whether the appropriate guidelines are being used, both on the plan and on the ground.
Ideally, such guidelines would incorporate a chart correlating the tonnage of forest residues and tops that can be removed with the percentage of basal area being harvested, similar to how the BMP manual uses charts to stipulate culvert sizes or distance between waterbars on different grade slopes. The guidelines could stipulate acceptable levels of removals for stands of different productivity as determined by the Soil Survey for that property, with no residuals to be removed perhaps in normal conditions from sites with low productivity soils.

To implement the guidelines, we suggest that the forester or landowner filing for the Forest Cutting Permit be required to state how much residues would be removed during the harvest and how they calculated the allowable tonnage. If special conditions on the site necessitate, in their opinion, exceeding the guideline limits, they would be asked to justify in writing why approval for higher removals should be allowed. When their Cutting Permit is approved, the approved biomass tonnage might serve as a basis for determining the allocation of Renewable Energy Credits also.

17. One problem with guidelines being too specific about acceptable percentages of residues that may be harvested is the question of how the Service Forester can reasonably check on the ground to see that the guidelines are being adhered to. It is very easy to write a percentage into a standard, quite another thing to try to estimate how much or how little residues are actually left onsite – particularly when modern harvesting machinery often compacts limbwood and topwood to use it to spread out the weight and protect sensitive soils from excessive compaction.
With any flat percentage limit, there will be cases where the percentage left will be in dispute. We are not aware of any simplified guide that helps in this verification. This would seem to be the perfect place for the use of a lawyerly "reasonable" estimate to judge compliance.

Thank you for the opportunity to comment on these regulations.

Gregory Cox
Executive Director